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The identification of a space-dependent load source in isotropic thermoelastic systems: numerical experiments

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Abstract

In this talk, the numerical determination of a space-dependent load source in an isotropic thermoelastic system of type-III from the knowledge of an additional final time measurement is discussed. A convergent and stable iterative algorithm is proposed for the recovery of the unknown vector source in the linear case and, at the same time, a stopping criterion is also given. Several numerical experiments are considered to validate the properties of the proposed iterative procedure and the regularizing/stabilizing character of the corresponding stopping criterion. The numerical experiments carried out showed that it exists a certain limitation of the method with respect to the recovery of non-symmetric sources. The results of this research are published in [1].

References

- [1] K. Van Bockstal and L. Marin. Recovery of a space-dependent vector source in anisotropic thermoelastic systems. *Computer Methods in Applied Mechanics and Engineering*, 321:269–293, 2017.